

Volunteer State Community College  
Mechatronics Technology Program  
And  
Tennessee College of Applied Technology – Nashville at Portland  
Advanced Manufacturing Technology Program

Vol State Requirement	Vol State Credits/ Total class hours	TCAT-N Course Equivalencies	TCAT-N Hours	TCAT-N Trimester
AHT 1610 – Workplace Safety	3/60	AMT-PO 1101 Orientation and Safety	30	1 <sup>st</sup>
		AMT-PO 1203 Mechanical Fabrication	40	2 <sup>nd</sup>
		<b>Total TCAT-N hours</b>	<b>70</b>	
MECH 1100 – Electrical Components	3/60	AMT-PO 1103 AC/DC Electrical Systems	30	1 <sup>st</sup>
		AMT-PO 1104 Electronic Sensors	10	1 <sup>st</sup>
		AMT-PO 1105 Power and Control Electronics	60	1 <sup>st</sup>
		AMT-PO 1107 Electrical Wiring	100	1 <sup>st</sup>
		<b>Total TCAT-N hours</b>	<b>200</b>	
MECH 1200 – Mechanical Components and Electrical Drives	3/60	AMT-PO 1106 Electric Motor Controls	100	1 <sup>st</sup>
		AMT-PO 1110 Electric Motor Control Troubleshooting	22	1 <sup>st</sup>
		AMT-PO 1205 Mechanical Drives 1	40	2 <sup>nd</sup>
		AMT-PO 1208 Mechanical Drives 2	40	2 <sup>nd</sup>
		AMT-PO 1307 Electrical Rotating Machines	60	3 <sup>rd</sup>
		AMT-PO 1308 Electric Motor Troubleshooting	22	3 <sup>rd</sup>
		<b>Total TCAT-N hours</b>	<b>284</b>	
MECH 1300 – (Electro) Pneumatic and Hydraulic Control Circuits	3/60	AMT-PO 1301 Pneumatic Systems	40	3 <sup>rd</sup>
		AMT-PO 1302 Pneumatic System troubleshooting	40	3 <sup>rd</sup>
		AMT-PO 1303 Principles of Hydraulics	20	3 <sup>rd</sup>
		AMT-PO 1304 Basic Hydraulics	30	3 <sup>rd</sup>
		AMT-PO 1305 Intermediate Hydraulics	30	3 <sup>rd</sup>
		AMT-PO 1306 Electro-Fluid Power Systems	40	3 <sup>rd</sup>
		<b>Total TCAT-N hours</b>	<b>200</b>	
MECH 1500 – Digital Fundamentals and Programmable Logic Controllers	3/60	AMT-PO 1108 PLC and VFD Electrical Control Wiring	30	1 <sup>st</sup>
		AMT-PO 1404 Introduction to Factory Automation and Programmable Logic Controllers (PLC)	20	4 <sup>th</sup>
		AMT-PO 1405 Programmable Logic Controller (PLC) System	140	4 <sup>th</sup>
		AMT-PO 1406 Programmable Logic Controller (PLC) Troubleshooting	25	4 <sup>th</sup>
		AMT-PO 1407 Mechatronics	145	4 <sup>th</sup>
		<b>Total TCAT-N hours</b>	<b>360</b>	
MECH 2100 – Process Control Technologies	4/75	AMT-PO 1311 Process Control Systems	70	3 <sup>rd</sup>
		<b>Total TCAT-N hours</b>	<b>70</b>	